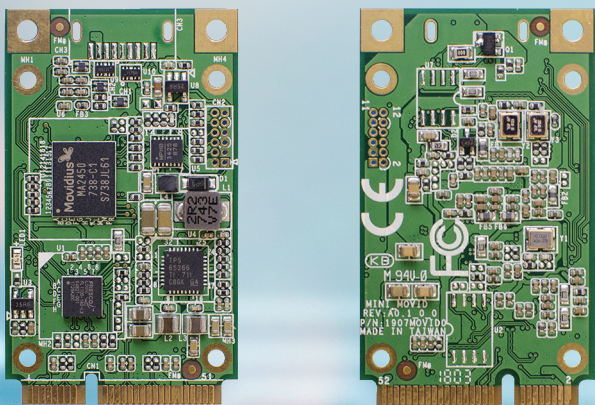




AI  
CORE

specification

bridge  
the gap



# AI CORE

The first embedded ultra-compact Artificial Intelligence processing card for on the edge computing

AI Core is a mini-PCI Express module that enables Artificial Intelligence on the Edge.

Thanks to its form factor it can seamless integrated in most of the industrial computing edge devices.

It is powered by low power high performance Intel Movidius Myriad 2 2450 VPU with 512MD DDR that can be found in millions of smart security cameras, gesture controlled drones, industrial machine vision equipment, and more.

AI Core enables rapid prototyping, validation and field deployment of Deep Neural Network (DNN) inference applications at the edge. Its low-power VPU architecture enables an entirely new segment of AI applications that are not reliant on a connection to the cloud.

AI Core combined with Intel Movidius Neural Compute SDK allows deep learning developers to profile, tune, and deploy Convolutional Neural Network (CNN) on low-power applications requiring real-time inferencing.

## UP AI Core - Specifications



**SOC**  
Intel Movidius Myriad 2 2450

**Supported Frameworks**  
TensorFlow, Caffe

**Form factor**  
Mini-PCI-Express

**Dimensions**  
xxx x xxx mm

**Minimum system requirements**  
x86\_64 computer running Ubuntu 16.04  
Available mPCI-E slot  
1GB RAM  
4GB free storage space



**An ultra-low power design**

For mobile and connected devices where battery life is critical, Myriad 2 provides a way to combine advanced vision applications in a low power profile. Intel's Movidius™ Myriad™ 2 VPU delivers vision capabilities to classes of devices previously unable to perform such demanding vision tasks.

**Unique design for vision and AI workloads**

Featuring 12 VLIW programmable SHAVE cores, dedicated vision accelerators and 2 CPUs, all connected by an intelligent memory fabric, Intel's Movidius™ Myriad™ 2 VPU is a fully functional vision SoC designed for high performance at ultra-low power. The highly parallel design and optimizations for sparse data structures make Myriad VPUs well suited to deep neural network applications and other modern vision workloads.

**12 programmable SHAVE cores**

The flexibility for developers to implement differentiated and proprietary applications is fundamental to Intel® Movidius™ Myriad™ 2 VPUs. Our optimized software libraries give device manufacturers the ability to run custom and proprietary operations on the 12 high performance SHAVE cores.

**A small-area footprint**

To conserve space inside mobile, wearable, and embedded devices, Intel's Movidius™ Myriad™ 2 was designed with a very small footprint that can easily be integrated into existing products.

**Additional Chip Details**

The Intel® Movidius™ Myriad™ 2 VPU architecture comprises a complete set of interfaces, a set of enhanced imaging/vision accelerators, a group of 12 specialized vector VLIW processors called SHAVes, and an intelligent memory fabric that pulls together the heterogeneous resources to enable power efficient processing.



Established in 1992, AAEON is one of the leading designers and manufacturers of advanced industrial and embedded computing platforms today. Committed to innovative engineering, AAEON provides integrated solutions, hardware and services for premier OEM/ODMs and system integrators worldwide.

With a continuous pursuit of innovation and excellence, AAEON became a member of the ASUS group in 2011, further strengthening its leadership fueled by advanced technology from ASUS and leveraging resources within the group. AAEON is poised to offer more diversified embedded products and solutions at higher quality standards to meet world-class design and manufacturing demands in the years to come.

For more information about AAEON, please visit:  
[www.aaeon.com](http://www.aaeon.com)

UP is a brand of AAEON Europe, an associate company of ASUS group, focused on Embedded, Internet Of Things, Industry 4.0. UP's mission is to spread the intelligence in all the world around us. UP bridges the gap between the world of prototypes and the world of high-grade mass-produced embedded systems solutions. UP gives affordable and easily accessible and support of all the latest technologies to embedded industry.

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# Artificial Intelligence on the edge